

sured by cardiac catheterization in patients with severe AS without other valve disease.

**Methods and results** From January 2010 to December 2012, we included 85 consecutive patients with severe AS scheduled for clinically indicated cardiac catheterization study. Comprehensive transthoracic echocardiography (TTE) was performed in all patients within 24 hours of the hemodynamic study. Mean age was  $75 \pm 9$  years, 65% of them were male, 65%, 22% and 54% had respectively a history of hypertension, diabetes, and dyslipidemia. NYHA functional class was  $\geq III$  in 63% of patients. By TTE, mean LV ejection fraction, max left atrial (LA) volume indexed, were respectively  $60 \pm 9\%$ , and  $38 \pm 16 \text{ mL/m}^2$ . Mean mitral septal E/e' ratio was  $18.6 \pm 9$ . Cardiac catheterization found 60% cases of coronary artery disease and the mean PCWP was  $13.5 \pm 7 \text{ mmHg}$ . As compared to patients with low PCWP ( $< 13 \text{ mmHg}$ ), those with higher PCWP had similar LVEF, and AS severity but significantly higher LA indexed volume ( $41 \pm 19$  vs.  $29 \pm 10 \text{ mL/m}^2$ ,  $p=0.004$ ) and septal E/e' ( $22.4 \pm 10$  vs.  $14.7 \pm 5$ ,  $p=0.001$ ). A maximal LA indexed volume  $> 29 \text{ mL/m}^2$  predicted a PCWP  $> 13 \text{ mmHg}$  with a sensitivity of 77% and a specificity of 62% (area under the curve = 0.73). Similarly, mitral annular septal E/e'  $> 12$  predicted PCWP  $> 13 \text{ mmHg}$  with a sensitivity of 90% and a specificity of 60% (area under the curve = 0.73).

**Conclusion** In severe AS patients, maximal LA indexed volume  $> 29 \text{ mL/m}^2$  and E/e' ratio  $> 12$ , derived from TTE, appear as good markers of elevated PCWP. Further studies are needed to investigate their prognostic values.

*The author hereby declares no conflict of interest*

## 0574

### Determinants and prognostic value of Galectin-3 in patients with aortic valve stenosis - the COFRASA-GENERAC study

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**Background** Identifying subgroups of asymptomatic patients with aortic stenosis (AS) who may benefit from early intervention is a critical challenge due to the risk of sudden death and irreversible myocardial dysfunction without preceding symptoms. In this study, we analyzed the determinants and prognostic value of Galectin-3 in a large cohort of patients with AS.

**Methods** We included patients with at least mild degenerative AS enrolled in 2 ongoing prospective clinical studies, COFRASA and GENERAC, aiming at assessing the determinants of AS occurrence and progression.

**Results** Between November 2006 and July 2013, 583 patients were prospectively enrolled. Severe AS was diagnosed in 312 (56%) patients among whom 220 (38%) were symptomatic. Age ( $p<0.0001$ ) and reduced creatinine clearance ( $p<0.0001$ ) were positively associated with Galectin-3 level.

No significant association was found between Galectin-3 and echocardiographic parameters of AS severity including aortic valve area ( $p=0.41$ ), mean transvalvular gradient ( $p=0.27$ ), and AS jet velocity ( $p=0.52$ ). Galectin-3 did not provide diagnostic evidence of severe AS (area under the curve = 0.53). Galectin-3 was not influenced by symptomatic status. Echocardiographic parameters of LV remodeling were not associated with Galectin-3 in multivariate analysis. Event-free survival analysis revealed no prognostic value of Galectin-3.

**Conclusions** The main determinants of Galectin-3 level were age and renal function. There was no association between Galectin-3 and symptomatic status and echocardiographic parameters associated with LV remodeling. Galectin-3 didn't provide prognostic information on the occurrence of AS related events. These results do not support the use of Galectin-3 in the decision making process of patients with AS.

*The author hereby declares no conflict of interest*

## 0331

### Predictors of outcome of repeated percutaneous mitral valvuloplasty

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**Background** Percutaneous mitral valvuloplasty (PMV) has emerged as the procedure of choice in treatment of mitral stenosis and has proved effectiveness in cases of mitral restenosis after surgical commissurotomy. Compared with surgery, PMV is associated with shorter hospital stays, reduced patient discomfort, and significantly lower costs. However, it is unknown whether patients who developed symptomatic mitral restenosis after PMV may benefit from repeat PMV (re-PMV) with safety.

**Objectives** This study was designed to evaluate the occurrence rate and the predictive factors for severe complications following re-PMV.

**Methods** Retrospective study from a series of 40 procedures of re-PMV with the Inoue balloon at  $8 \pm 4$  years after prior procedure, performed between 1996 and 2011. A clinical and ultrasound follow-up was achieved in 31 patients with a mean follow-up period of  $43 \pm 26$  months.

**Results** The mean age of patients was  $43 \pm 11$  years [23, 63]. 87.5% of the population being female (5 men and 35 women). The immediate procedural success was achieved in 31 patients (77.5%). A severe mitral regurgitation (MR) was observed in 3 patients (7.5%). A cerebrovascular stroke occurred in 1 patient (2.5%). No procedure-related death or cardiac tamponade were noted. Only a left atrial area  $\leq 25 \text{ cm}^2$  was linked to high risk of severe MR. At long-term, mitral restenosis was observed in 13 patients (42%) at  $53 \pm 30$  months [9; 128] after re-PMV, 2 patients presented thromboembolic events (6%) and no death. Only the male had been identified as a predictor of restenosis.

**Conclusion:** The feasibility of re-PMV with a relatively high procedural success rate and an acceptable complication profile makes it an appealing therapeutic strategy for patients with recurrent valve stenosis.

*The author hereby declares no conflict of interest*

## 0015

### Left ventricular rapid pacing: a new technique to simplify BAV and TAVI procedures

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**Aims** The aim of this study is to demonstrate efficacy and safety of a new technique for rapid pacing during balloon aortic valvuloplasty (BAV) and Transaortic Valve Implantation (TAVI).

This study first describes the method used safely and successfully for BAV and TAVI in a fragile adult population.

**Methods and results** these technique consist in a left ventricular pacing through the 0.35 inch back up guidewire inserted into the left ventricle. The cathode of an external pacemaker was placed on the external end of the 0.35' wire using an alligator clamp. The anode was placed (also using an alligator clamp) on a small needle piercing the subcutaneous tissue at the site of the anesthetized groin.

The balloon or the TAVI catheter provides the necessary insulation.

We performed consecutively 100 cases of BAV and TAVI. All cases were successfully conducted with a one for one pacing (160 to 200/min). That's how we obtain a significant blood pressure drop in all cases with a mean systolic pressure during stimulation of 45mmHg. The time procedure was 38mn for BAV and 65mn for TAVI. Only three patients underwent a venous temporary pacemaker at the end of procedure for conduction disturbances. All cases of TAVI (34) underwent a femoral venous catheter as a central catheter while the BAV population did not have a venous femoral puncture. No venous vascular complication or tamponade was observed in our population.